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Appeal Brief In Response  
to final Office action of 18 January 2006

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/944,318  
Applicant(s) : NAUTA et al.  
Filed : 31 Aug 2001  
TC/A.U. : 2873  
Examiner : STULTZ, Jessica T.  
Atty. Docket : NL-000483  
Title: DISPLAY DEVICE

<p align="center"><b>CERTIFICATE OF MAILING OR TRANSMISSION</b></p> <p>I certify that this correspondence is being: [ ] deposited with the U.S. Postal Service with sufficient postage as first-class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. [X] transmitted by facsimile to the U.S. Patent and Trademark Office at 571-273-8300.</p> <p>On: <u>2 May 2006</u> By: </p>
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Mail Stop: APPEAL BRIEF - PATENTS  
Commissioner for Patents  
Alexandria, VA 22313-1450

**APPEAL UNDER 37 CFR 41.37**

Sir:

This is an appeal from the decision of the Examiner dated 18 January 2006,  
finally rejecting claims 1-12 and 22 of the subject application.

This paper includes (each beginning on a separate sheet):

1. Appeal Brief, with appendices; and
2. Credit card authorization in the amount of \$500.

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## **APPEAL BRIEF**

### **I. REAL PARTY IN INTEREST**

The above-identified application is assigned, in its entirety, to Koninklijke Philips Electronics N. V.

### **II. RELATED APPEALS AND INTERFERENCES**

Appellant is not aware of any co-pending appeal or interference that will directly affect, or be directly affected by, or have any bearing on, the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claim 21 is canceled.

Claims 1-20 and 22 are pending in the application.

Claims 13-20 are withdrawn, with traverse.

Claims 1-6, 8-9, 11-12, and 22 stand rejected by the Examiner under 35 U.S.C. 102(b).

Claims 7 and 10 stand rejected by the Examiner under 35 U.S.C. 103(a).

These rejected claims are the subject of this appeal.

### **IV. STATUS OF AMENDMENTS**

No amendments were filed subsequent to the final rejection in the Office Action dated 18 January 2006.

A request for pre-appeal review was submitted on 3 March 2006, and a petition to withdraw the restriction was submitted on 1 May 2006.

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### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The invention addresses a luminance system and a display that includes the luminance system. The claims were subject to a restriction requirement, and this appeal addresses a display with a luminance system.

The invention presents a means for avoiding the illumination of pixels as they transition from one state to the next, as new values are written to these pixels (applicants' page 1, lines 15-18). In an example thin-screen display, the traditional light guide that couples light from a light source at a side of the display to the display panel is modified to include a shutter that selectively couples light from a light source to the display panel (page 2, lines 23-31). By selectively coupling the light, the light source itself need not be controlled and/or synchronized to the display (page 3, lines 15-18). Preferably, the shutter is configured to selectively couple or decouple the light to select portions of the display, typically via the selective coupling of the light to stripes of the display panel (FIGs. 2, 3, 4; page 5, lines 13-32).

As claimed in independent claim 1, the invention comprises a display device (FIGs. 1, 4, 5, 6) comprising:

a display panel (2) having a first light-transmissive substrate (4) provided with electrodes (7) at the area of pixels arranged in rows and columns, a second light-transmissive substrate (3), and electro-optical material (5) between the two substrates (3,4) (page 4, lines 18-25); and

an illumination system (8) situated on the side of the second substrate (3) remote from the electro-optical material (5), said illumination system (8) including an optical waveguide (15) of an optically transparent material having an exit face (18) facing the display panel (2) (page 4, line 29 – page 5, line 3),

wherein the optical waveguide (15) is adapted for selectively (21) coupling out light to the display panel (2) for a group of rows of pixels or a group of columns of pixels and for coupling in light in a direction which is substantially parallel to the exit face (page 5, lines 17-32).

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As claimed in dependent claim 2, the illumination system includes at least one backlight (12) and an optical waveguide (15) having at least one entrance face (10) for light, while light from the backlight can be coupled in along the entrance face (10) extending substantially transversely to the exit face (FIG. 1), and a selectively switchable light switch (21) is situated between the backlight (12) and the entrance face (10) (FIGs. 1 and 2).

As claimed in dependent claim 6 (FIG. 5), the light from the backlight (12) can be coupled in along an entrance face extending at an angle to the exit face, and selectively switchable light switches (21) are situated between the backlight (12) and segments (15) of the optical waveguide (page 6, line 22 - page 7, line 4).

As claimed in dependent claim 7, at least one of the selectively switchable light switches (21) includes a switchable reflective mirror (page 7, lines 5-7).

As claimed in dependent claim 10 (FIG. 10), the backlight (12) includes a prismatic element (42) at the area of the entrance face (page 8, lines 6-8).

#### **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1-6, 8-9, 11-12, and 22 stand rejected under 35 U.S.C. 102(b) over Jelley et al. (USP 5,377,027, hereinafter Jelley).

Claims 7 and 10 stand rejected under 35 U.S.C. 103(a) over Jelley and Deacon et al. (USP 6,325,553, hereinafter Deacon).

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## VII. ARGUMENT

**Claims 1-6, 8-9, 11-12, and 22 stand rejected  
under 35 U.S.C. 102(b) over Jelley**

MPEP 2131 states:

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The *identical invention* must be shown in as *complete detail* as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

**Claims 1-6, 8-9, 11-12, and 22**

Claim 1, upon which each of the other claims depends, claims a display device that includes an optical waveguide that is adapted for selectively coupling out light to the display panel for a group of rows of pixels or a group of columns of pixels.

Jelley does not teach an optical waveguide that is adapted for selectively coupling out light to the display panel. Jelley's waveguide 40 is a conventional waveguide that unconditionally couples any input light to the output sites 48. Jelley's waveguide does not selectively couple out the light that it receives.

The Office action notes that Jelley teaches the selective activation of emissions from diodes 52, 54, and 56 to provide light to the output sites 48 via the waveguide 40. The applicants concur with this characterization of Jelley, but respectfully maintain that the selective activation of light sources that provide light to a waveguide is not identical to the selective coupling out of the light by the waveguide, as specifically claimed in claim 1.

Because Jelley fails to teach an optical waveguide that is adapted for selectively coupling out light to the display panel, the applicants respectfully maintain that the rejection of claims 1-6, 8-9, 11-12, and 22 under 35 U.S.C. 102(b) over Jelley is unfounded, per MPEP 2131.

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**Claims 2-4**

Claim 2 claims the device of claim 1, wherein a selectively switchable light switch is situated between the backlight and an entrance face of the waveguide.

The Office action asserts that the pixels of the display panel of Jelley correspond to the claimed selectively switchable light switch. The applicants agree that display pixels form selectively switchable light switches, but respectfully note that Jelley's pixels are not situated between the backlight and an entrance face of the waveguide, as specifically claimed in claim 2.

Because Jelley fails to teach a selectively switchable light switch that is situated between the backlight and an entrance face of the waveguide, the applicants respectfully maintain that the rejection of claims 2-4 under 35 U.S.C. 102(b) over Jelley is unfounded, per MPEP 2131.

**Claim 6**

Claim 6 claims selectively switchable light switches situated between the backlight and segments of the optical waveguide.

As noted above, the Office action asserts that the pixels of the display panel of Jelley correspond to the claimed selectively switchable light switch. The applicants respectfully note that Jelley's pixels are not situated between the backlight and segments of the waveguide, as specifically claimed in claim 6.

Because Jelley fails to teach a selectively switchable light switch that is situated between the backlight and segments of the waveguide, the applicants respectfully maintain that the rejection of claim 6 under 35 U.S.C. 102(b) over Jelley is unfounded, per MPEP 2131.

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**Claims 7 and 10 stand rejected under 35 U.S.C. 103(a)  
over Jelley and Deacon.**

MPEP 2142 states:

"To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) *must teach or suggest all the claim limitations*... If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness."

**Claims 7 and 10**

Claims 7 and 10 are dependent upon claim 1, discussed above with regard to Jelley.

In this rejection, the Office action relies on Jelley for teaching the elements of claim 1. Because Jelley fails to teach an optical waveguide that is adapted for selectively coupling out light to the display panel, as specifically claimed in claim 1, the applicants respectfully maintain that the rejection of claims 7 and 10 under 35 U.S.C. 103(a) over Jelley and Deacon is unfounded, per MPEP 2142.

**Claim 7**

Claim 7 claims at least one selectively switchable light switch that includes a switchable reflective mirror.

In this rejection, the Office action notes that Jelley does not teach a switchable reflective mirror, and relies on Deacon for teaching mirror structures. The applicants agree that Deacon teaches mirror structures, but note that Deacon does not teach a switchable reflective mirror, as specifically claimed.

Because neither Jelley nor Deacon teaches or suggests a selectively switchable light switch that includes a switchable reflective mirror, the applicants respectfully maintain that the rejection of claim 7 under 35 U.S.C. 103(a) over Jelley and Deacon is unfounded, per MPEP 2142.

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### CONCLUSIONS

Because Jelley fails to teach an optical waveguide that is adapted for selectively coupling out light to the display panel, the applicants respectfully request that the Examiner's rejection of claims 1-6, 8-9, 11-12, and 22 under 35 U.S.C. 102(b) over Jelley, and claims 7 and 10 under 35 U.S.C. 103(a) over Jelley and Deacon be reversed by the Board, and the claims be allowed to pass to issue.

Because Jelley fails to teach a light switch situated between the backlight and the waveguide, the applicants respectfully request that the Examiner's rejection of claims 2-4 and 6 under 35 U.S.C. 102(b) over Jelley be reversed by the Board, and the claims be allowed to pass to issue.

Because neither Jelley nor Deacon teaches or suggests a selectively switchable light switch that includes a switchable reflective mirror, the applicants respectfully request that the Examiner's rejection of claim 7 under 35 U.S.C. 103(a) over Jelley and Deacon be reversed by the Board, and the claims be allowed to pass to issue.

Respectfully submitted,



Robert M. McDermott, Attorney  
Registration Number 41,508  
804-493-0707

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## **CLAIMS APPENDIX**

**1. A display device comprising:**

a display panel having a first light-transmissive substrate provided with electrodes at the area of pixels arranged in rows and columns, a second light-transmissive substrate, and electro-optical material between the two substrates; and  
an illumination system situated on the side of the second substrate remote from the electro-optical material, said illumination system including an optical waveguide of an optically transparent material having an exit face facing the display panel,

wherein the optical waveguide is adapted for selectively coupling out light to the display panel for a group of rows of pixels or a group of columns of pixels and for coupling in light in a direction which is substantially parallel to the exit face.

**2. The device of claim 1, wherein the illumination system includes at least one backlight and an optical waveguide having at least one entrance face for light, while light from the backlight can be coupled in along the entrance face extending substantially transversely to the exit face, and a selectively switchable light switch is situated between the backlight and the entrance face.**

**3. The device of claim 2, wherein the illumination system includes a backlight having an entrance face at the area of at least one end face of the optical waveguide extending substantially transversely to the rows, while light from the backlight can be coupled in along said end face.**

**4. The device of claim 2, wherein the selectively switchable light switch includes an electro-optical switching device with an electro-optical material between two substrates, at least one substrate being provided with strip-shaped electrodes.**

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5. The device of claim 1, wherein the illumination system includes sub-segments and at least one backlight with an entrance face for light for each sub-segment, while light from the backlight can be coupled into the sub-segments.
6. The device of claim 5, wherein the light from the backlight can be coupled in along an entrance face extending at an angle to the exit face, and selectively switchable light switches are situated between the backlight and segments of the optical waveguide.
7. The device of claim 6, wherein at least one of the selectively switchable light switches includes a switchable reflective mirror.
8. The device of claim 1, wherein the optical waveguide includes an electro-optical switching device with an electro-optical material between two substrates, at least one substrate being provided with strip-shaped electrodes on the side of the electro-optical material.
9. The device of claim 1, wherein the illumination system includes at least one backlight having an entrance face for light at the area of the optical waveguide, while light from the backlight can be coupled in along an entrance face extending substantially transversely to the exit face, and parts of the backlight are selectively switchable between an on-state, having a high light intensity, and an off-state.
10. The device of claim 9, wherein the backlight includes a prismatic element at the area of the entrance face.
11. The device of claim 1, wherein the display device includes a drive unit capable of presenting signals to data and column electrodes for the purpose of writing pixels, and selectively activating a part of the illumination system associated with the group of rows of pixels.

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12. The device of claim 11, wherein the drive unit introduces a delay between the presentation of the signals to the data and column electrodes and the selective activation of the part of the illumination system associated with the group of rows or pixels.

22. The device of claim 3, wherein the selectively switchable light switch includes an electro-optical switching device with an electro-optical material between two substrates, at least one substrate being provided with strip-shaped electrodes.

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#### **EVIDENCE APPENDIX**

No evidence has been submitted that is relied upon by the appellant in this appeal.

#### **RELATED PROCEEDINGS APPENDIX**

Appellant is not aware of any co-pending appeal or interference which will directly affect or be directly affected by or have any bearing on the Board's decision in the pending appeal.

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